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News Summary

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The denial of tenure to a feminist historian at Stanford University has raised questions about affirmative action. Story on Page 5.

Control Data will give away more than 400 microcomputers to colleges and universities in an effort to increase the supply of engineers. Story on Page 2.

Public colleges expect to spend an average of 9 per cent more in 1982-83 than they did last year, according to the latest Chronicle Survey. Story and table on Page 11.

The White House may be considering replacing the present Archivist of the United States with a former ambassador and arms negotiator. Story on Page 13.

Some colleges have begun charging students fees when they apply for federal loans. Story on Page 13.

Over 60 per cent of the black athletes in the Big Eight Conference would have been adversely affected by new academic standards adopted by the National Collegiate Athletic Association. Story on Page 17.

An injured athlete at Indiana State University is not entitled to workers' compensation, the state's supreme court has ruled. Story on Page 17.

American colleges and universities do not have adequate policies regarding the foreign students on their campuses. Story on Page 19.

Countless books published over the last century are rotting away because of lack of attention to how they are produced. Story on Page 25.

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Cooperation Said to Be Increasing Between High Schools, Colleges

By BEVERLY T. WATKINS

After more than a decade during which they have virtually ignored each other, the nation's higher-education institutions and secondary schools are beginning to cooperate to solve some of their mutual education problems, says a new report from the Carnegie Foundation for the Advancement of Teaching.

Ernest L. Boyer, president of the foundation, says in a foreword to the report that an informal survey undertaken for the foundation "reveals a dramatic upsurge in collaboration" between colleges and schools. Some of the institutions, he says, "have come together to accomplish clear, explicit goals and objectives that should be pursued by every institution in every state."

The report speculates that "the loss in public confidence in education at all levels" and the persistent need for remedial programs at colleges may be partly responsible for the increased interest that school and college educators are showing in each other's problems. Declining enrollments and pressure from state legislators who are concerned about the financing of education may also be factors, the report says.

The report cites a number of projects from New York to California in which high schools and colleges have collaborated successfully on advanced placement, teacher education, transitional curricula, experimental schools, and other matters.

However, the report says, some higher-education institutions are still making unilateral decisions about problems that they and the high schools have in common and taking actions with little or no consultation. Other colleges are sitting back like "indifferent spectators" while the schools struggle with problems they cannot solve alone.

The Carnegie Foundation for the Advancement of Teaching is planning more reports and a new fellowship program for university presidents. Story on Page 8.

"The worlds of the school and the college are different at the same time that they are alike," the report notes. "Teachers at the two levels speak the same tongue, yet some are incapable of dialogue. One is supposed to prepare students to sit in the

Continued on Page 8, Column 3

House Panel Votes $400-Million to Ease Science-Teacher Shortage

Grants to improve foreign-language instruction added

By JANET HOOK

WASHINGTON

The House Committee on Education and Labor last week approved a $400-million plan to reduce the shortage of science and mathematics teachers in elementary and secondary schools.

In approving the measure, the panel also voted to provide grants to colleges for improving foreign-language instruction, despite opposition from some legislators who feared the addition would dilute the effectiveness of the new programs.

The Congressmen said the measure might be taken to the House floor as early as next week, after it is reviewed and revised by the Committee on Science and Technology.

The measure, HR 1310, consolidated two bills introduced earlier this year by Rep. Carl D. Perkins, Democrat of Kentucky and chairman of the education panel, and Rep. Don Fuqua, Democrat of Florida and chairman of the science committee. The bills were combined in an effort to resolve a jurisdictional dispute between the two panels that threatened to stall action on both science-education bills.

As approved by the House education committee, HR 1310 would authorize $300-million for new grants to improve science and mathematics instruction at elementary and secondary schools. Under the program, which would be run by the Department of Education, up to $250-million would go to state education agencies and local school districts, and the remaining $50-million would be earmarked for grants to colleges and universities.

The higher-education programs would include $20-million for scholarships and $17.5-million for summer institutes to improve teachers' skills in science, mathematics, and foreign languages.

The bill also would provide $100-million a year for five years for the National Science Foundation to finance fellowships, lab equipment, and research grants, under

Continued on Page 15, Column 1

Private Colleges Report Increase in Applications

But public institutions say 8 pct. fewer have applied

By JACK MAGARRELL

Private colleges and universities, whose average first-year classes now are significantly smaller than last year's, report preliminary but promising signs that larger numbers of freshmen may be coming next fall.

A far different pattern is reported by public institutions, whose overall enrollment rose slightly last fall. Early data on freshman applications received by those colleges and universities show a significant drop compared with last year at the same time.

Those crosscurrents in freshman applications show up in the first of the Chronicle Survey's samplings of admission trends for the fall of 1983. (See table, Page 10.)

The survey results show that the average number of freshman applications received by private institutions through December 31, 1982, was up 7 per cent over the number received by the same date a year earlier. At the same time, the average number of applications received by public colleges and universities had declined 8 per cent.

By December 31, the average four-year institution, public or private, receives roughly a third of the applications it will get for admission to the following fall's freshman class.

Liberal-Arts Colleges Gain

Despite the increase in freshman applications for all private institutions combined, 62 per cent of the private Ph.D.-granting and research universities reported a decline in applications, compared with the previous year. The university losses were more than offset by gains—averaging 10 per cent—at private liberal-arts colleges.

Overall, about 48 per cent of the private institutions and 51 per cent of the public institutions reported decreases.

In the Northeast and Mid-Atlantic regions, 62 per cent of the private institutions reported an increase in freshman applica-

Continued on Page 10, Column 1

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Looking for Work Outside Academe

In a depressed academic job market, many scholars in the arts and sciences wonder:

- Should they consider a new career in business or government?
- Would they qualify?
- What's the first step?

Some ideas and sources of information appear in the Personal & Professional Section, Page 21.

Test-Score Use in Admissions Assailed in Mass.

By E. PATRICK McQUAID

BOSTON

A proposal to set minimum admissions standards for Massachusetts's public colleges and universities has sparked angry debate among representatives of government, education, and minority groups.

The plan, proposed by the Massachusetts Board of Regents of Higher Education, would set a combined verbal and mathematics score of 800 (out of a possible 1,600) on the Scholastic Aptitude Test as the minimum for admission to all campuses of the University of Massachusetts.

Candidates would also have to be in the top half of their high-school class.

A combined S.A.T. score of 750 and ranking in the top 40 per cent of the high-school class would be required for admission to the state's nine four-year colleges. An open-admissions policy would remain in effect at community colleges.

Controversy continues over using standardized tests to determine athletes' eligibility. Story on Page 17.

In addition, students applying to four-year institutions would have to complete 16 units of "required high-school subject preparation," including four years of English, three of mathematics, and two each in the natural sciences, social sciences, and a foreign language.

At a public hearing this month, the proposal's reliance on S.A.T. scores came under sharp criticism from legislators representing minority and low-income communities. They said the scores would exclude the entire student bodies of some school districts from admission to four-year colleges.

"Applying S.A.T. scores as an arbitrary minimum standard would completely exclude children in my district," said state Rep. Saundra Graham, who is chairman of the six-member Massachusetts Black Legislative Caucus. She described the standardized test scores in her district as "horrendous."

Critics also charged that the 15-member, all-white, all-male board of regents was largely unaware of needs of students from minority groups.

David C. Knapp, president of the University of Massachusetts system, was the only chief executive in the state's 27 institutions who spoke against the plan.

He suggested that the regents set an average S.A.T. score for an entering class rather than a minimum for each student.

He also said a waiver proposed by the regents for culturally disadvantaged candidates would stigmatize those applicants and defeat the very reason for setting standards.

An alternative plan, calling for "guidelines rather than minimums," has been submitted to the regents by the Black Legislative Caucus and the Council of Minority Educators in Massachusetts Public Colleges and Universities. Applicants would be rated on seven criteria: high-school record, college-entrance examination scores, letters of recommendation, personal interviews, personal statements, special talents such as artistic or athletic abilities, and special interests.

Fewer Score High on Scholastic Aptitude Test; Selective Colleges Concerned

STANFORD, CAL.

The number of students scoring at the highest levels on the verbal and mathematics sections of the Scholastic Aptitude Test has declined dramatically over the past decade, according to an analysis by Fred Hargadon, dean of admissions at Stanford University here.

Mr. Hargadon, who presented his findings at a meeting of Stanford's Academic Council this month, said the shrinking pool of students scoring at the higher levels on the S.A.T.'s 200-to-800 scale could pose a problem for colleges and universities that traditionally have sought such people.

Such institutions may find it harder to recruit the "truly exceptional students," he said.

For the 10 years from 1972 through 1982, he said, the number of students scoring 650 or higher on the verbal test fell by 45 per cent from 53,794 to 29,236. In that period, the number of students taking the test fell by 3 per cent. On the mathematics test, Mr. Hargadon found, the number of students scoring 650 or higher fell by 23 per cent, from 93,868 to 71,916.

In a telephone interview last week, Mr. Hargadon, former chairman of the board of trustees of the College Board, said that it was "futile to speculate" on the specific causes of the decline.

"I don't think students are any less capable than other generations," Mr. Hargadon said. "Students can do well in the right school systems."

But he added, "There is something going wrong in many of the schools. It is a matter of lowered standards and lowered expectations in general."

Some additional evidence that the number of students performing at the highest levels has been declining was provided in a report issued last week by the National Assessment of Educational Progress.

The report indicated that, in mathematics and science at least, "the performance of American youth declined during the 1970's." The performance of students in the lowest quarter on the national assessments improved, the report said, while the performance of students in the top quarter declined significantly.

Mr. Hargadon reported the following numbers of students who scored 650 or higher on the verbal and mathematics sections of the S.A.T. over the 10-year period:

	1972	1982
Above 650 verbal	53,794	29,236
Above 700 verbal	17,560	8,240
Above 750 verbal	2,817	1,479
Above 650 math	93,868	71,916
Above 700 math	37,067	29,528
Above 750 math	9,966	8,351

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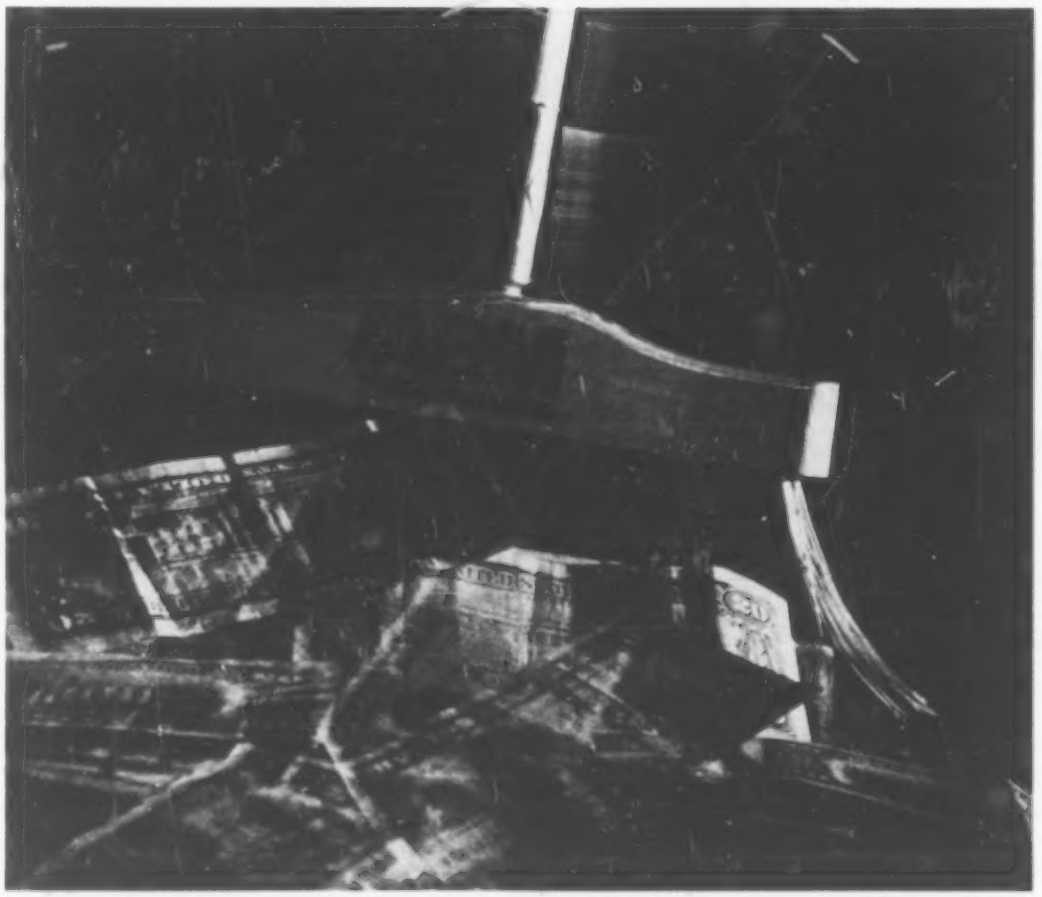

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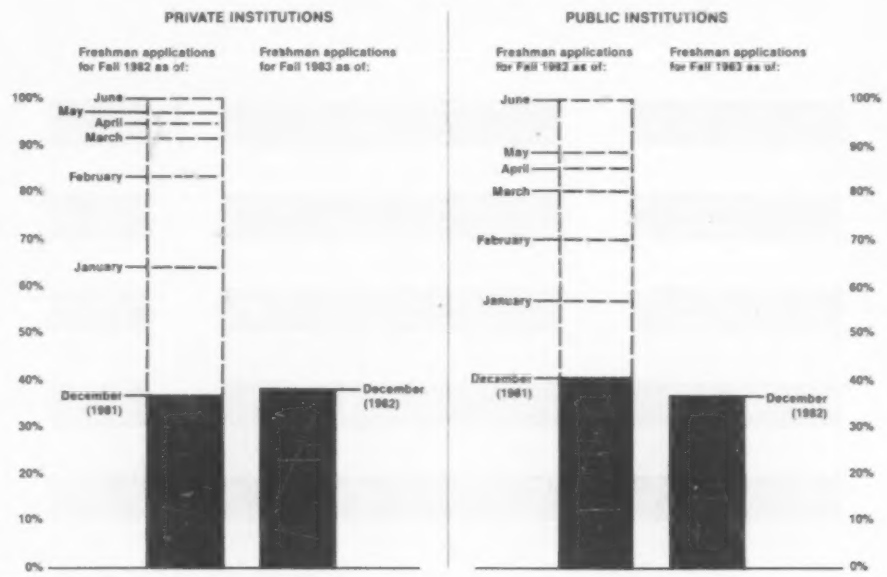
CHRONICLE SURVEY

Changes in Number of Freshman Applicants

December 31, 1982, compared with December 31, 1981



Note: All percentages are of June, 1982, total

CHRONICLE CHART BY PETER H. STAFFORD

	Change in average (a)	Per cent reporting increase	Per cent reporting decrease	Per cent change Low (b)	Median (c)	High (d)
Private colleges and universities						
Research and Ph.D.-granting	+ 2.9%	37.5%	62.5%	−11.6%	− 7.3%	+13.6%
Comprehensive (e)	− 5.6%	44.7%	55.3%	−11.4%	− 4.4%	+ 6.6%
Liberal arts	+10.1%	54.2%	44.6%	−15.7%	+ 2.6%	+32.7%
Regions						
Northeast and Mid-Atlantic	+ 3.4%	62.5%	35.4%	− 5.8%	+ 3.9%	+31.8%
Great Lakes and Plains	− 2.5%	41.8%	58.2%	−16.0%	− 5.3%	+17.4%
Southeast	+ 1.2%	51.9%	48.1%	−28.3%	− 0.4%	+27.7%
West and Southwest	+ 3.1%	35.3%	64.7%	−11.2%	− 6.1%	+ 5.9%
Enrollment						
500 − 999	+23.6%	60.6%	39.4%	−20.7%	+ 8.3%	+43.8%
1,000 − 2,499	+ 3.9%	47.6%	50.8%	−14.0%	− 0.8%	+21.1%
2,500 − 4,999	− 1.5%	36.4%	63.6%	−10.1%	− 4.8%	+ 2.9%
5,000 − 9,999	− 8.1%	37.5%	62.5%	−14.4%	− 7.3%	+10.6%
10,000 and over	+ 9.8%	66.7%	33.3%	−11.9%	+ 6.3%	+26.6%
All private institutions	**+ 7.1%**	**51.5%**	**47.6%**	**−13.1%**	**− 0.2%**	**+22.4%**
Public colleges and universities						
Research and Ph.D.-granting	− 6.6%	44.4%	55.6%	−19.2%	− 2.5%	+11.5%
Comprehensive (e)	− 8.4%	50.0%	50.0%	−26.2%	− 6.0%	+37.9%
Regions						
Northeast and Mid-Atlantic	+ 1.2%	42.9%	57.1%	−17.9%	− 5.6%	+17.7%
Great Lakes and Plains	−10.1%	48.5%	51.5%	−15.5%	− 3.1%	+13.0%
Southeast	+ 0.1%	55.0%	45.0%	−28.9%	+ 0.8%	+ 20.5%
West and Southwest	−17.6%	37.5%	62.5%	−32.3%	−13.5%	+ 15.3%
Enrollment						
500 − 2,499	+20.5%	50.0%	50.0%	−22.8%	−11.3%	+40.5%
2,500 − 4,999	−16.5%	66.7%	33.3%	−29.6%	+ 0.8%	+38.9%
5,000 − 9,999	− 9.4%	50.0%	50.0%	−28.1%	−13.5%	+12.9%
10,000 −19,999	− 0.2%	45.8%	54.2%	− 9.8%	− 5.6%	+15.8%
20,000 and over	− 9.1%	41.9%	58.1%	−21.7%	− 2.9%	+11.7%
All public institutions	**− 8.0%**	**48.6%**	**51.4%**	**−20.4%**	**− 2.5%**	**+17.1%**
All institutions	**+ 1.8%**	**50.5%**	**48.9%**	**−14.0%**	**− 1.1%**	**+20.5%**

(a) Percentage change in mean number of applications received by December 31, 1982, compared with the mean for a year earlier.
(b) One-fourth of the institutions reported changes smaller than the percentage shown.
(c) Half of the institutions reported changes greater than the percentage shown.
(d) One-fourth of the institutions reported changes greater than the percentage shown.
(e) Institutions with more than 1,500 students, a liberal-arts program, and at least one professional program.
Note: Survey data are from a stratified random sample of 230 four-year colleges and universities, excluding those with enrollment under 500.

SOURCE: SURVEY FOR THE CHRONICLE BY JOHN MINTER ASSOCIATES

Private-College Applications *Continued from Page 1*

tions, compared with 35 per cent in the West and Southwest.

For public colleges and universities, increases were most common in the Southeast, where applications were up at 55 per cent of the institutions. In the West and Southwest only 37 per cent of the public institutions reported increases:.

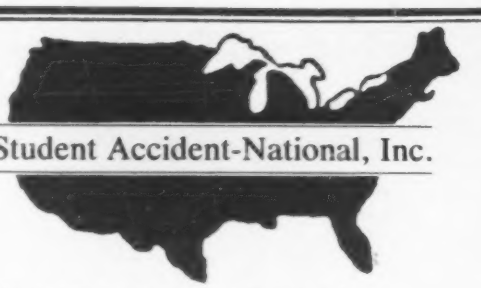
A year ago, the Chronicle Survey found that at the end of December, 1981, freshman applications were up 3.1 per cent over the previous year at public institutions and up 0.7 per cent at private institutions. By the end of June, the number of applications for admission as freshmen in the fall of 1982 had dropped below the level of the same date a year earlier at both public and private institutions.

When it came to actual enrollment of first-year students last fall, private colleges and universities reported a decline of 3.8 per cent from the previous fall's number, according to a large-scale survey by the National Institute of Independent Colleges and Universities.

A third of the private institutions reported losses of more than 10 per cent in their freshman classes last fall. The freshman enrollment declines last fall were particularly large in the Middle Atlantic States and among the less selective liberal-arts colleges.

The federal government's National Center for Education Statistics, which did not report changes in enrollment of first-year students, found that total enrollment at public four-year institutions last fall was down about 0.7 per cent, compared with fall 1981.

The Chronicle Survey of freshman applications was designed and conducted for *The Chronicle* by John Minter Associates, of Boulder, Colo. The survey sample did not include two-year institutions or colleges with fewer than 500 students.



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CHRONICLE SURVEY

Spending by Colleges and Universities, by Type of Institution

Public colleges and universities expect to increase their spending this year by an average of 9 per cent over last year's level, but they expect decreases for sponsored research and public service, according to a Chronicle Survey of higher-education finances.

For private institutions, the average spending in 1982-83 is expected to be only 6 per cent above last year's figure, despite projected increases of 17 per cent in payments of principal and interest on institutional debts, 12 per cent in spending for scholarships, and 10 per cent in spending for plant operations.

The survey figures show an average increase of 8.9 per cent in the public institutions' spending in 1981-82 compared with the previous year. The comparable increase for private colleges and universities was 11.6 per cent.

The figures on average spending by colleges and universities are based on unaudited data reported by the institutions for 1981-82, plus the institutions' projections for 1982-83. Total spending and shares of total spending reported are based on totals not limited to educational and general expenditures.

The survey was conducted for *The Chronicle* by John Minter Associates of Boulder, Colo., a research organization that specializes in higher-education studies. Data for the survey are based on responses from a sample of 150 public institutions and 150 private institutions.

Public institutions

	Share of total expenditure, 1981-82			Change from 1980-81 to 1981-82			Projected change, 1981-82 to 1982-83
	Average	High (a)	Low (b)	Average	High (c)	Low (d)	
Ph.D.-granting universities							
Instruction	43.4%	53.1%	33.6%	+11.7%	+ 16.3%	+ 7.0%	+ 7%
Sponsored research	15.5%	19.5%	11.5%	+ 5.7%	+ 8.8%	+ 2.6%	−31%
Public service	10.3%	15.3%	+ 5.2%	− 2.3%	+ 4.1%	− 8.7%	+ 8%
Academic support	6.3%	8.4%	4.2%	+11.6%	+22.4%	+ 0.8%	0%
Student services	2.3%	3.1%	1.5%	− 7.9%	+12.8%	−28.6%	+ 8%
Institutional support	5.4%	7.1%	3.7%	+12.6%	+26.2%	− 1.1%	+11%
Plant operations	6.9%	7.8%	5.9%	+13.5%	+22.2%	+ 4.8%	+ 4%
Scholarships	3.4%	5.4%	1.4%	+10.9%	+21.2%	+ 0.7%	+ 7%
Principal and interest	1.0%	1.8%	0.2%	− 1.0%	+ 5.1%	− 7.1%	+ 6%
Auxiliary enterprises							
Room and board	6.1%	8.3%	3.4%	+11.9%	+19.2%	+ 4.6%	+ 7%
Total	12.6%	18.7%	6.4%	+11.3%	+20.1%	+ 2.6%	+ 8%
Intercollegiate athletics	2.6%	3.2%	2.1%	+14.7%	+19.9%	+ 9.4%	+ 7%
Total	—	—	—	+ 8.8%	+12.5%	+ 5.1%	+ 6%
Comprehensive institutions (e)							
Instruction	32.0%	35.5%	28.6%	+ 8.5%	+12.3%	+ 4.6%	+ 8%
Sponsored research	4.7%	12.0%	0.0%	+ 6.8%	+36.2%	−22.7%	−16%
Public service	3.0%	8.0%	0.0%	+13.3%	+36.1%	− 9.4%	+ 6%
Academic support	8.7%	11.1%	6.2%	+ 9.2%	+15.5%	+ 2.9%	+ 6%
Student services	5.3%	7.1%	3.5%	+ 6.8%	+18.4%	− 4.9%	+ 2%
Institutional support	8.8%	11.8%	5.9%	+ 7.6%	+19.5%	− 4.4%	+10%
Plant operations	10.6%	13.5%	7.8%	+12.7%	+18.9%	+ 6.4%	+ 7%
Scholarships	3.1%	4.5%	1.6%	+16.6%	+46.5%	−13.0%	+ 4%
Principal and interest	1.9%	3.1%	0.7%	+32.6%	+95.9%	−30.1%	—
Auxiliary enterprises							
Room and board	8.5%	13.3%	3.7%	+ 9.3%	+15.3%	+ 3.2%	+ 9%
Total	13.5%	20.9%	6.0%	+ 8.0%	+19.2%	− 3.0%	+ 5%
Intercollegiate athletics	2.1%	3.0%	1.2%	+17.4%	+31.8%	+ 3.1%	+ 1%
Total	—	—	—	+ 6.1%	+11.6%	+ 0.6%	+14%
2-year colleges							
Instruction	43.0%	49.4%	36.7%	+ 9.7%	+13.8%	+ 5.6%	+ 8%
Public service	2.2%	3.9%	0.5%	− 4.8%	+23.1%	−32.7%	−12%
Academic support	7.2%	9.6%	4.9%	+ 9.6%	+18.1%	+ 1.1%	+ 9%
Student services	6.9%	8.9%	4.8%	+ 9.1%	+15.9%	+ 2.2%	+ 5%
Institutional support	13.9%	18.1%	9.6%	+16.8%	+27.4%	+ 6.2%	+ 6%
Plant operations	10.8%	12.9%	8.9%	+12.4%	+22.5%	+ 2.3%	+ 9%
Scholarships	2.0%	3.5%	0.6%	+ 1.6%	+19.3%	−16.0%	+ 4%
Principal and interest	2.5%	3.8%	1.2%	− 4.7%	+17.8%	−27.2%	—
Auxiliary enterprises							
Room and board	8.8%	14.2%	3.3%	+17.1%	+26.4%	+ 7.8%	+ 4%
Total	11.6%	17.5%	5.6%	+15.7%	+25.2%	+ 6.3%	+ 3%
Intercollegiate athletics	2.2%	3.0%	1.3%	+11.0%	+17.0%	+ 5%	+ 9%
Total	—	—	—	+10.0%	+14.1%	+ 6%	+ 7%
All public institutions							
Instruction	40.2%	46.1%	34.3%	+ 9.6%	+13.6%	+ 5.5%	+ 8%
Sponsored research	2.5%	4.8%	1.0%	+ 2.2%	+10.0%	− 5.6%	− 7%
Public service	3.1%	5.9%	0.8%	+ 0.1%	+24.8%	−24.6%	− 6%
Academic support	7.5%	9.9%	5.2%	+ 9.7%	+17.8%	+ 1.5%	+ 7%
Student services	6.1%	7.9%	4.2%	+ 7.0%	+16.3%	− 2.3%	+ 4%
Institutional support	11.9%	15.5%	8.1%	+14.1%	+25.3%	+ 2.9%	+ 7%
Plant operations	10.4%	12.6%	8.4%	+ 12.6%	+21.5%	+ 3.6%	+ 8%
Scholarships	2.4%	3.9%	0.9%	+ 6.2%	+26.4%	−13.8%	+ 4%
Principal and interest	2.2%	3.5%	1.0%	+ 5.2%	+36.7%	−26.2%	+ 1%
Auxiliary enterprises							
Room and board	8.5%	13.5%	3.4%	+14.6%	+22.9%	+ 6.3%	+ 6%
Total	12.2%	18.5%	5.8%	+13.3%	+23.2%	+ 3.6%	+ 8%
Intercollegiate athletics	2.2%	3.0%	1.3%	+13.0%	+21.0%	+ 4.9%	+ 7%
Total	—	—	—	+ 8.9%	+13.3%	+ 4.5%	+ 9%

Private institutions

	Share of total expenditure, 1981-82			Change from 1980-81 to 1981-82			Projected change, 1981-82 to 1982-83
	Average	High (a)	Low (b)	Average	High (c)	Low (d)	
Ph.D.-granting universities							
Instruction	34.0%	39.8%	28.3%	+12.0%	+15.6%	+ 8.4%	+ 10%
Sponsored research	9.0%	13.2%	4.8%	− 3.0%	+ 2.5%	− 8.6%	+ 4%
Public service	0.5%	1.0%	0.1%	− 6.0%	+ 4.7%	−16.7%	+ 2%
Academic support	5.7%	8.7%	2.7%	+13.9%	+18.2%	+ 9.6%	+10%
Student services	3.2%	4.2%	2.2%	+14.6%	+17.4%	+11.8%	+ 8%
Institutional support	9.5%	12.1%	6.8%	+11.7%	+13.0%	+10.4%	+17%
Plant operations	6.2%	7.4%	5.1%	+12.7%	+15.8%	+ 9.6%	+26%
Scholarships	6.1%	7.5%	4.7%	+11.7%	+18.6%	+ 4.7%	+16%
Principal and interest	1.0%	2.0%	0.0%	+20.1%	+38.1%	+ 2.0%	+22%
Auxiliary enterprises							
Room and board	7.8%	11.4%	4.3%	+ 8.2%	+11.7%	+ 4.8%	+12%
Total	12.0%	21.7%	2.2%	+10.2%	+13.2%	+ 7.2%	+ 1%
Intercollegiate athletics	4.1%	5.8%	2.4%	+11.4%	+21.4%	+ 1.4%	+ 7%
Total	—	—	—	+10.2%	+11.2%	+ 9.3%	+10%
Other institutions granting graduate degrees							
Instruction	31.9%	36.4%	27.4%	+11.7%	+15.1%	+ 8.3%	+ 6%
Sponsored research	3.1%	6.8%	0.0%	+25.2%	+80.0%	−29.7%	− 6%
Academic support	6.1%	8.6%	3.6%	+10.0%	+20.4%	− 0.3%	+ 6%
Student services	6.7%	8.4%	4.9%	+12.1%	+17.8%	+ 6.4%	+ 3%
Institutional support	13.2%	16.0%	10.4%	+11.8%	+19.5%	+ 4.1%	+14%
Plant operations	9.5%	12.1%	6.9%	+10.8%	+18.0%	+ 3.6%	+ 8%
Scholarships	9.3%	11.3%	7.3%	+14.2%	+26.8%	+ 1.6%	+ 7%
Principal and interest	1.6%	2.5%	0.6%	+ 8.0%	+28.6%	−12.0%	+13%
Auxiliary enterprises							
Room and board	13.5%	17.3%	9.7%	+10.4%	+16.2%	+ 4.5%	+ 4%
Total	14.6%	22.5%	6.7%	+13.4%	+24.4%	+ 2.4%	+ 6%
Intercollegiate athletics	2.7%	4.0%	1.4%	+15.4%	+26.6%	+ 4.1%	+ 8%
Total	—	—	—	+11.3%	+14.5%	+ 8.0%	+ 6%
Selective liberal-arts colleges							
Instruction	27.5%	30.3%	24.6%	+14.2%	+17.7%	+10.7%	+ 7%
Sponsored research	1.6%	2.8%	0.5%	+10.1%	+50.3%	−30.1%	− 9%
Academic support	6.4%	8.2%	4.6%	+16.0%	+20.8%	+11.1%	+10%
Student services	7.6%	9.2%	5.6%	+15.0%	+21.3%	+ 8.6%	+ 6%
Institutional support	13.9%	16.3%	11.4%	+15.7%	+24.1%	+ 7.3%	+14%
Plant operations	10.9%	12.3%	9.5%	+15.6%	+22.9%	+ 8.3%	+ 9%
Scholarships	10.7%	13.1%	8.3%	+20.5%	+32.3%	+ 8.7%	+17%
Principal and interest	2.0%	3.6%	0.5%	+36.4%	+104.2%	−31.5%	+34%
Auxiliary enterprises							
Room and board	14.0%	17.0%	11.0%	+12.8%	+18.9%	+ 6.8%	+ 6%
Total	16.3%	22.4%	10.2%	+10.7%	+17.3%	+ 4.0%	+14%
Intercollegiate athletics	2.7%	4.5%	1.0%	+14.4%	+26.4%	+ 2.5%	+10%
Total	—	—	—	+14.1%	+17.6%	+10.6%	+ 9%
Less selective liberal-arts colleges							
Instruction	27.5%	31.8%	23.3%	+ 8.5%	+15.0%	+ 2.0%	+ 8%
Academic support	6.8%	9.3%	3.7%	+11.1%	+33.4%	−11.2%	+ 5%
Student services	9.4%	11.2%	7.7%	+13.6%	+25.0%	+ 2.1%	+ 6%
Institutional support	15.7%	19.5%	11.8%	+14.6%	+25.8%	+ 3.3%	+ 5%
Plant operations	10.1%	12.7%	7.6%	+10.7%	+27.6%	− 6.2%	+ 5%
Scholarships	8.4%	11.5%	5.3%	+16.4%	+28.9%	+ 3.9%	+13%
Principal and interest	2.4%	4.4%	0.4%	+15.2%	+52.0%	−21.6%	+18%
Auxiliary enterprises							
Room and board	15.6%	19.4%	11.7%	+12.8%	+19.7%	+ 5.9%	+ 9%
Total	19.3%	25.0%	13.6%	+ 5.0%	+13.9%	− 3.9%	+ 9%
Intercollegiate athletics	2.5%	3.4%	1.2%	+ 9.9%	+22.4%	− 2.7%	− 3%
Total	—	—	—	+11.1%	+16.1%	+ 6.0%	+ 6%
2-year colleges							
Instruction	22.1%	24.5%	19.7%	+11.4%	+15.2%	+ 6.5%	+ 9%
Academic support	3.9%	5.2%	2.6%	+11.7%	+17.9%	+ 5.6%	+ 7%
Student services	12.5%	14.9%	10.0%	+25.3%	+41.0%	+ 9.6%	− 1%
Institutional support	17.1%	21.2%	12.5%	+17.3%	+26.9%	+ 7.6%	+ 6%
Plant operations	9.7%	12.1%	7.4%	+19.9%	+32.1%	+ 7.7%	+17%
Scholarships	8.1%	11.5%	4.6%	+ 5.1%	+16.2%	− 6.0%	+12%
Principal and interest	1.7%	2.7%	0.6%	− 0.3%	+17.4%	−18.0%	+ 9%
Auxiliary enterprises							
Room and board	18.4%	22.4%	14.4%	+11.7%	+18.1%	+ 5.4%	− 4%
Total	14.0%	21.7%	6.3%	− 5.2%	+13.5%	−23.8%	− 2%
Total	—	—	—	+12.0%	+15.1%	+ 9.0%	+ 4%
All private institutions							
Instruction	27.7%	31.5%	23.8%	+10.6%	+15.4%	+ 5.6%	+ 8%
Sponsored research	1.4%	2.5%	0.3%	+ 6.4%	+22.9%	−10.2%	− 2%
Public service	0.0%	0.1%	0.0%	− 0.4%	+ 0.3%	− 1.0%	0%
Academic support	5.9%	8.4%	3.5%	+11.7%	+25.0%	− 1.6%	+ 6%
Student services	8.9%	10.8%	7.0%	+16.0%	+26.0%	+ 5.9%	+ 4%
Institutional support	14.9%	18.3%	11.3%	+14.5%	+23.7%	+ 5.2%	+ 9%
Plant operations	9.7%	12.1%	7.5%	+13.3%	+25.3%	+ 1.4%	+10%
Scholarships	8.6%	11.4%	5.9%	+13.7%	+25.5%	+ 1.9%	+12%
Principal and interest	2.0%	3.4%	0.5%	+13.0%	+44.5%	−18.5%	+17%
Auxiliary enterprises							
Room and board	15.1%	18.8%	11.3%	+11.8%	+18.0%	+ 5.5%	+ 5%
Total	16.4%	23.3%	9.5%	+ 5.6%	+16.4%	− 5.3%	+ 6%
Intercollegiate athletics	2.1%	3.1%	1.0%	+ 9.6%	+18.9%	+ 0.2%	+ 2%
Total	—	—	—	+11.6%	+15.4%	+ 7.8%	+ 6%

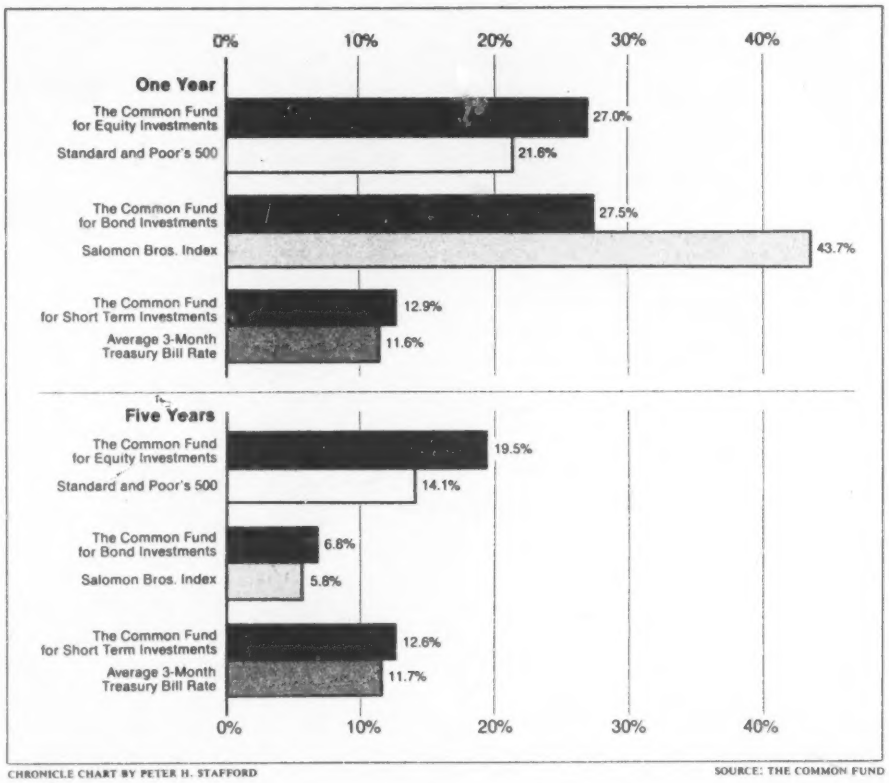
* Total includes all expenditures, not just educational and general expenditures.
— Not applicable or data insufficient for reliable estimate.
(a) At about one-fifth of the institutions, the share of total expenditure was higher than the "high" percentage (mean percentage plus one mean deviation).
(b) At about one-fifth of the institutions, the share of total expenditure was lower than the "low" percentage (mean percentage minus one mean deviation).
(c) About one-fifth of the changes were higher than the "high" percentage (mean increase plus one mean deviation).
(d) About one-fifth of the changes were lower than the "low" percentage (mean change minus one mean deviation).
(e) Institutions with more than 1,500 students, a liberal-arts program, and at least one professional program.

Note: Survey is based on unaudited data reported by institutions in a stratified random sample of 150 private institutions and 150 public institutions. The approximate response rates were 90 per cent for 1981-82 data and 70 per cent for 1982-83 projections. Because the 1982-83 projections are based on a smaller number of responses, they should be regarded as less reliable than the data for 1981-82. Data for "all public institutions" and "all private institutions" are weighted according to the distribution of institutions by type. Technical inquiries about the survey design and sampling techniques should be addressed to John Minter Associates, P.O. Box 107, Boulder, Colo. 80306.

SOURCE: SURVEY FOR THE CHRONICLE BY JOHN MINTER ASSOCIATES

Common Fund Tops $1-Billion

Return on mutual fund's equity investments up sharply in 1982



CHRONICLE CHART BY PETER H. STAFFORD SOURCE: THE COMMON FUND

FAIRFIELD, CONN.

Assets of the Common Fund, a nonprofit organization that manages investments for educational institutions, grew to more than $1-billion during 1982.

George F. Keane, president of the fund, said colleges and universities had added $40-million to their investments in the second half of the year, bringing the total value of the fund's assets to $1,027,900,000.

The Common Fund serves as a mutual fund for colleges, universities, and schools, with three types of investment: stocks, bonds, and short-term securities.

At the end of 1982, investments in the stock or equity fund amounted to $234.9-million; in the bond fund, $114-million; and in short-term investments, $679-million.

The Common Fund's equity investments showed a combined return from dividends and capital appreciation of 27 per cent for 1982, up sharply from the five-year average return of 19.5 per cent. Common Fund officials compared their return of 27 per cent with 27.3 per cent for the Dow Jones average of industrial stocks and 21.6 per cent for Standard & Poor's index of 500 stocks.

The Common Fund's bond investments showed a combined return from interest and capital appreciation of 27.5 per cent in 1982. The Salomon Brothers index of corporate bonds showed a total return for the year of 43.7 per cent. Officials of the Common Fund said the rates of return differed so dramatically because bonds in the Salomon Brothers index are all long-term bonds, with an average maturity of 24 years, compared with an average of 12 years for the Common Fund's holdings.

Short-term investments of the Common Fund showed a net return for the year of 12.9 per cent, compared with an average yield of 11.6 per cent for three-month Treasury Bills.

—JACK MAGARRELL

Medical Schools Urged to Stress Care of Elderly

WASHINGTON

Medical schools must revise their curricula to place more emphasis on the growing number of elderly people, says the Association of American Medical Colleges.

After a year-long study, the association last week issued a report and suggested guidelines for medical schools to use in preparing young physicians to deal with people over 65, who now make up 11 per cent of the population and are expected to make up 18 per cent by the year 2030.

By then, said John A. D. Cooper, president of the medical-college association, about 75 per cent of the nation's medical care is expected to be provided to the elderly.

"We don't believe 75 per cent of the nation's physicians should be geriatricians, but all doctors will have a heavy responsibility for care of the aging," said Dr. Cooper.

Instead of recommending that more courses on the elderly be added to curricula, the report suggests that increased attention be given throughout medical school to the medical and social problems of the elderly—in shaping the attitudes of medical students and in teaching all basic science and clinical courses.

Medical students are part of society and like the rest of society often have unflattering stereotypes about the elderly that are not supported by research, said Joseph Johnson, chairman of the department of medicine at the Bowman Gray School of Medicine of Wake Forest University and head of the 11-member committee that produced the report. Students need to realize, he said, that "sickness and disability are not inevitable consequences of advancing years; most elderly people can live active, independent lives."

But the elderly are different from younger patients in ways to which doctors must be sensitive, he said. For example, they may respond differently to drugs and may require different strategies for care, since the effects of disease may be combined with the normal effects of aging.

The guidelines recommended by the A.A.M.C. urge medical schools to:

▶ Increase the attention paid to the aging process and elderly patients by setting up "a group of faculty members interested in gerontology and geriatric medicine and training other faculty members in these areas."

▶ Seek expanded support for research on aging to allow schools to improve clinical care and stimulate medical students' interest.

▶ Offer medical students a variety of clinical settings and types of encounters with the elderly "through which students can learn special arrangements for the care, diagnosis, and treatment of the elderly."

▶ Arrange for medical students to meet healthy, independent elderly people.

▶ Encourage scientific groups and medical-specialty societies to develop and distribute educational materials dealing with the concerns of the elderly in their particular fields.

—CHERYL M. FIELDS

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TELECOURSE CONFERENCE '83

MARCH 30 — APRIL 1, 1983

WASHINGTON, D.C.

Telecourse Conference '83 is a dialogue of college educators, broadcasters and distributors seeking to improve the delivery of education to adult learners through emerging technologies. It is the sixth national conference examining techniques for reaching adult students effectively and economically through telecommunications courses.

Telecourse Conference '83 will be held at The Shoreham Hotel, March 30-April 1, 1983, in Washington, D.C., directly following the Annual Conference of the American Association of Higher Education (AAHE).

The conference will focus on management challenges facing those responsible for the changing, sophisticated methods of the delivery of telecourses, and will explore the impact via new technologies including cable and satellite deliveries.

For more informationn contact Telecourse Conference '83, Ann Kuhlke, Coast Telecourses, 10231 Slater Avenue, Fountain Valley, CA 92708 (714) 962-8861.

Sponsored by THE TELECOURSE PEOPLE

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A 6-Month Index to The Chronicle Begins on Page 67

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Computers still have not found a comfortable place in the humanities classroom. Story on Page 10.

Westminster College in Utah will close on June 30—and reopen the next day as a "new" institution. Story on Page 11.

A case involving alleged sex bias in faculty salaries will test whether the federal Equal Pay Act applies to colleges. Story on Page 14.

The proportion of the U.S. defense budget earmarked for basic research has fallen. Story on Page 15.

Graduate students could be seriously hurt by President Reagan's budget proposals for fiscal 1984. Story on Page 15.

A specialist in sports law says universities with big-time sports programs will continue to be haunted by disputes over the status of scholarship athletes. Story on Page 17.

The Sports Academy does just about everything connected with athletics except field teams. Story on Page 17.

Binding arbitration may be the most important provision in a faculty contract. Story on Page 21.

Paul Fussell, author of *The Boy Scout Handbook and Other Observations*, sees life through the eyes of an infantryman. Story on Page 25.

Community-college teachers on strike in Quebec have defied emergency back-to-work legislation. Story on Page 19.

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Rising Costs of Health Benefits for Employees Worry Colleges

By SUZANNE PERRY
WASHINGTON

A proposal by the Reagan Administration to tax some health-insurance premiums has focused attention on a major concern in higher education: the escalating cost of providing health-care coverage to employees.

"I would say that in terms of nonacademic-related issues, health-care cost containment has got to be the primary financial problem today for colleges and universities," said Joyce A. Fecske, director of personnel at DePaul University.

Under the Reagan Administration's proposal, an employer's payments above $175 per month for health insurance for an employee's family, and above $70 for individual coverage, would be taxed as income to the employee. In the past such fringe benefits have not been taxed.

Although Ms. Fecske and other university officials interviewed by *The Chronicle* said they were not convinced that the proposal would do much to control medical expenses, they said the problem it is attempting to address is serious.

With health-care costs increasing faster than almost every other item on the Consumer Price Index—11 per cent in 1982—college and university budgets, like those of other employers, are being severely strained. In addition, health specialists say, more and more employees are availing themselves of increasingly sophisticated, expensive medical procedures such as coronary bypasses, which drive up the cost of health-insurance premiums.

266-Pct. Increase Since 1976

At DePaul, for example, medical-insurance costs have increased 266 per cent since 1976, said Ms. Fecske, who is chairman of the fringe benefits and services council of the College and University Personnel Association. The university's health-care budget for fiscal 1983 is $2.3-million, representing 5 per cent of tuition revenue, she said.

"We're going to have to make some changes," Ms. Fecske added. "This is just uncontrollable."

The University System of Georgia, which has a self-financed health-insurance plan, took the unusual step last month of increasing contributions to its reserves by 25 per cent for the second time this fiscal

Continued on Page 24, Column 3

Governors See Higher Education as Key to Economic Recovery

Colleges are called 'raw material in new industrial order'

By JACK MAGARRELL

Governors are putting increased emphasis on the role of higher education in the economic development of their states, especially in the competition to attract high-technology industries.

"There is a raw material in the new industrial order that is taking precedence over coal and iron," Colorado legislators were told by Gov. Richard D. Lamm. "That raw material is education. In a real sense, the education of today is the economy of tomorrow."

Only a few years ago, references to higher education were relatively rare in the catalogue of concerns that governors present in their annual messages to legislators.

As state lawmakers convened this winter for their 1983 sessions, economic hard times continued to overshadow all other problems. But in state after state, governors pinned their hopes for economic recovery on the colleges and universities.

Other common themes of the governors' budget and state-of-the-state messages this year included:

▶ State revenues continue to fall short of earlier projections. Even Alaska, whose petroleum riches have given it a general immunity to the economic problems faced by other states, expects revenues to decline by 21 per cent in the year ahead, because of the drop in world prices for oil.

▶ Most governors are not counting on a strong, early recovery of the national economy to raise state revenues.

Besides continuing to cut expenditures, many of them are asking for new taxes as an unavoidable necessity to balance their budgets.

In Idaho, where spending levels of state agencies this year are 16 per cent lower than in 1979, Gov. John V. Evans has rec-

Continued on Page 12, Column 1

U.S. Rules Out Future Support for Researcher

Strongest action yet in a case of fabricated data

By KIM McDONALD
WASHINGTON

The Department of Health and Human Services last week barred a former researcher at the Harvard University medical school from receiving future support from the agency because he fabricated data in experiments financed by the National Institutes of Health.

The action, recommended by James B. Wyngaarden, director of the N.I.H., was the strongest yet taken by the government against a medical researcher for falsifying data in federally financed research.

John R. Darsee, a former research associate in medicine at Harvard, will also not be permitted to serve on any N.I.H. peer-review panel or advisory committee for 10 years, the department said. In addition, the Brigham and Women's Hospital in Boston, at which Dr. Darsee conducted his experiments, has been asked to return $122,371 to the N.I.H., the full amount of the contract under which Dr. Darsee did his work.

Repeat Study Rejected

Mary L. Miers, a program analyst at N.I.H.'s office of extramural research and training, which investigated the incident, said her agency had never before asked an institution to repay the full amount of its grant or contract because of scientific fraud.

Although the Boston hospital, which is affiliated with Harvard, offered to repeat the research at its own expense, Dr. Wyngaarden declined the offer. He said the results of the animal experiments would not be comparable to those conducted by other institutions involved in the same research project.

"In this case, the whole study was useless," Ms. Miers said.

Dr. Darsee, who is now at Ellis Hospital in Schenectady, N.Y., could not be reached for comment. He was dismissed

Continued on Page 16, Column 3

BOB SWANSON

At a Catholic College, the Will to Survive

More than 60 Catholic colleges and universities in the U.S. closed between 1965 and 1980; today 240 survive. One of them is Saint Michael's College in Vermont, which has prospered as a result of sweeping changes made during the past 10 years.

An article on Saint Michael's and its blueprint for survival begins on Page 6.

Saint Michael's *Continued from Preceding Page*

here. There was a time, says the Rev. Paul E. Couture, a professor of religious studies, "when students were getting out of here with no Christian courses. We restructured the curriculum to guarantee as a Christian college that students would not leave here without at least hearing about religion."

Traditionally, Saint Michael's, like most other Catholic colleges, has depended on tuition and fees for income. Until recently, fund raising has been all but impossible for many of these colleges because of a widely held view that they were inferior academic institutions with graduates who worked in low-paying jobs.

"Today we have a legitimacy we did not have 30 years ago," says Mr. Henry, "and we have a clientele that is able to support us. Our alumni, who are first- and second-generation children of immigrants, are now chief executive officers of corporations. They will support the college because they are bound with strong ties of philosophical conviction, sentiment, and memories."

'Something in the Sock'

Mr. Henry says Saint Michael's is planning its first major fund-raising effort—probably a $5-million capital campaign—to coincide with the college's eightieth anniversary next year.

The college also has "a little something in the sock" because of the 66 townhouses it has built around the perimeter of the campus, says John Gutman, vice-president for operations.

"If enrollments decline and the apartments become vacant, we can rent them to the public to produce income," he says. "Or we could make them into condominiums and sell them if the college were in dire straits. They could produce a stream of cash or a lump sum if the institution needed either."

"Times will be tough in the 1980's. Saint Michael's will be vulnerable, as will other religiously affiliated colleges," predicts Ronald H. Provost, vice-president for academic affairs.

However, he says, "We have identified the things that make us unique. We know what we do well and what we don't do well. The Edmundites remain our tie with our past and with our future. And we have been successful for almost 80 years."

Missing Maryland College President Believed to Be Living in California

LA PLATA, MD.

Jay N. Carsey, the former president of Charles County Community College in Maryland who disappeared mysteriously last spring (*The Chronicle*, June 30, 1982), is believed to be alive and well and living in California.

Officials of the college have confirmed that a letter from Mr. Carsey bearing a San Rafael, Cal., postmark was received in January, eight months after his disappearance. In the letter, Mr. Carsey is said to have inquired about money owed him by the college and asked that such funds be sent to him in California through an intermediary.

It was the first communication from the former president since he disappeared last May, leaving behind his wife, home, and friends, as well as his job and what has been described as a prominent place in local society. Mr. Carsey, 47, was completing his eighteenth year in the presidency at the time. Observers suggested that he might have been "burned out" by the job. He sent the college's trustees a two-line post card of resignation, but offered no reasons for his actions.

The trustees, after determining that the college's finances were in order, named John M. Sine—then dean of the college and a longtime associate of Mr. Carsey's—to the presidency.

FACT-FILE

1981-82 Holdings of Research Libraries in U.S., Canada

University libraries †	Overall rank ‡	Volumes in library	Volumes added	Current serials	Spending for materials*	Spending for salaries*
Harvard U.	1	10,409,228	148,657	97,000	$5,782,416	$12,930,744
U. of California, Berkeley	2	6,117,424	189,651	102,265	4,169,260	11,670,545
U. of California, Los Angeles	3	4,882,164	125,319	69,548	4,195,060	10,779,342
Yale U.	4	7,725,424	146,303	57,679	3,425,885	8,351,627
Stanford U.	5	4,889,448	117,805	46,455	4,732,935	9,875,649
U. of Toronto	6	4,789,740	165,860	44,007	4,037,714	10,740,980
U. of Texas	7	4,846,764	144,642	60,000	4,847,047	7,587,294
U. of Michigan	8	5,481,172	105,482	60,688	3,677,902	7,516,157
U. of Illinois	9	6,242,615	151,490	93,913	4,019,841	6,666,517
Columbia U.	10	5,192,448	81,691	59,604	2,672,123	7,033,156
Cornell U.	11	4,401,660	79,696	54,643	3,157,799	5,928,458
U. of Wisconsin	12	4,184,038	104,191	53,836	3,352,060	6,815,220
U. of Washington	13	4,084,741	69,737	40,698	2,750,266	6,008,284
U. of Minnesota	14	3,945,397	72,304	47,032	3,010,551	6,875,630
U. of Br. Columbia	15	2,307,541	90,520	32,213	3,113,900	7,330,954
U. of No. Carolina	16	2,839,858	117,059	39,593	3,520,990	4,945,302
U. of Arizona	17	2,741,442	102,401	31,797	3,996,488	4,494,089
Indiana U.	18	3,993,390	137,383	27,589	2,722,608	5,360,880
Ohio State U.	19	3,685,917	70,809	28,591	2,756,128	5,466,618
Princeton U.	20	3,430,242	66,960	30,927	2,898,532	5,377,077
Pennsylvania St. U.	21	2,272,980	65,882	22,735	2,607,972	5,593,252
U. of Chicago	21	4,565,591	124,279	47,419	2,004,950	4,380,778
New York U.	23	2,698,871	85,140	27,925	2,345,301	4,840,161
U. of Virginia	23	2,466,753	75,168	25,003	2,693,004	4,415,944
U. of California, Davis	25	1,753,213	71,668	45,207	3,002,697	4,946,113
U. of Pennsylvania	26	3,054,234	53,584	30,971	1,915,557	4,750,748
Rutgers U.	27	2,024,215	53,188	21,769	2,466,182	5,859,020
U. of Alberta	28	2,231,193	84,737	14,594	2,879,623	5,631,029
U. of Florida	28	2,285,945	54,436	31,477	2,446,470	4,254,577
Duke U.	30	3,084,412	75,062	29,126	2,533,703	4,098,134
State U. of New York, Buffalo	30	2,137,941	157,214	22,562	2,203,365	3,615,521
Northwestern U.	32	2,889,402	66,963	32,606	2,244,989	4,780,315
U. of Georgia	33	2,141,617	79,118	43,568	2,590,782	3,254,741
U. of So. California	34	2,170,774	65,385	33,021	2,525,300	4,199,694
Michigan State U.	35	2,807,156	92,929	20,301	2,296,850	3,917,646
Howard U.	36	1,242,553	63,359	21,402	3,356,216	6,084,260
U. of Kansas	37	2,251,917	62,565	27,812	2,603,008	3,578,659
U. of Pittsburgh	38	2,386,504	47,262	17,702	1,949,305	3,941,781
U. of California, Santa Barbara	39	1,473,308	56,641	19,275	2,383,000	5,192,000
U. of Iowa	40	2,412,577	56,481	29,891	2,794,902	3,299,971
U. of Maryland	41	1,516,990	44,959	19,632	2,199,359	3,951,840
U. of California, San Diego	41	1,507,875	48,270	27,904	2,248,442	4,264,153
U. of Hawaii	43	1,852,813	66,478	32,380	2,053,661	3,447,575
Louisiana State U.	44	1,952,245	67,589	21,524	2,968,631	2,910,595
McGill U.	45	2,127,348	58,781	14,802	1,684,986	5,526,192
Boston U.	46	1,395,964	48,621	24,908	2,249,999	2,843,436
Arizona State U.	47	1,597,140	70,119	19,375	2,384,753	2,889,674
U. of Kentucky	48	1,854,088	37,306	34,624	2,058,863	2,801,186
Southern Illinois U.	48	1,716,213	47,678	20,364	1,878,751	3,530,919
Syracuse U.	50	2,010,009	57,415	20,430	1,600,356	2,722,169
Massachusetts Inst. of Technology	51	1,869,173	24,722	19,843	$1,598,201	$3,417,969
Johns Hopkins U.	52	2,369,926	25,999	19,541	1,988,897	2,856,873
U. of Western Ontario	52	1,403,508	48,206	21,000	2,002,798	3,898,667
U. of Missouri	54	2,117,156	48,368	21,588	1,873,419	2,338,918
U. of Cincinnati	55	1,330,758	52,201	18,229	1,815,229	3,597,393
Washington U. (Mo.)	55	1,883,737	42,037	15,558	1,829,571	2,566,808
Virginia Polytechnic Inst. and State U.	57	1,334,979	49,364	21,635	2,117,884	2,605,973
Brigham Young U.	58	1,574,100	50,593	16,707	n/a	n/a
Texas A&M U.	59	1,403,513	45,293	15,223	1,983,573	2,609,301
Purdue U.	60	1,503,098	33,534	17,755	1,766,215	3,204,861
U. of Nebraska	61	1,602,671	55,459	20,859	1,757,449	2,312,896
Temple U.	61	1,683,308	42,251	14,972	1,569,268	3,304,504
U. of South Carolina	61	1,949,985	55,721	16,203	1,711,552	2,412,976
Emory U.	64	1,736,191	46,642	15,737	1,926,858	2,410,377
Georgetown U.	65	1,343,971	55,956	17,761	1,751,429	2,846,335
York U.	66	1,379,915	50,955	20,017	1,428,184	3,107,084
Washington St. U.	66	1,304,500	38,521	30,850	1,548,780	2,754,484
U. of Colorado	68	1,927,699	39,492	19,441	1,730,097	2,739,438
Brown U.	69	1,804,982	41,603	14,251	1,590,306	2,605,305
U. of Houston	70	1,311,174	51,037	14,995	1,615,209	2,606,102
Florida State U.	71	1,413,613	42,874	15,541	1,636,511	2,638,899
Vanderbilt U.	72	1,483,428	34,396	16,315	1,617,705	2,351,223
U. of California, Irvine	73	1,023,518	40,139	14,228	1,920,818	3,191,991
Iowa State U.	73	1,447,350	45,830	20,054	1,944,711	2,536,389
U. of Oklahoma	75	1,903,996	45,338	16,957	1,823,880	2,383,598
U. of Miami	76	1,411,297	31,847	17,283	1,598,648	2,699,647
State U. of New York, Stony Brook	76	1,321,278	48,495	18,579	1,727,393	2,497,453
Wayne State U.	78	1,904,207	25,518	13,525	1,335,424	3,669,072
U. of Tennessee	79	1,421,342	29,333	24,320	1,452,034	2,382,739
U. of Utah	79	2,015,662	25,662	16,125	1,545,081	2,427,000
U. of Massachusetts	81	1,870,049	66,402	12,510	1,501,324	2,774,418
U. of Oregon	82	1,540,340	37,936	20,000	1,762,787	2,186,581
U. of Rochester	83	1,871,675	37,588	14,953	1,157,223	2,462,488
McMaster U.	84	1,233,720	47,033	13,016	1,992,497	2,549,673
Queen's U.	85	1,449,059	38,335	13,215	1,474,236	2,666,019
U. of Connecticut	86	1,746,946	57,438	16,276	1,496,816	2,842,162
U. of New Mexico	87	1,086,529	42,593	15,878	1,374,232	2,246,383
U. of Manitoba	88	1,251,077	34,024	12,174	1,291,677	3,394,897
State U. of New York, Albany	89	1,027,943	47,479	15,436	1,454,997	2,122,035
Dartmouth C.	90	1,475,654	41,716	18,098	1,376,022	1,902,232
U. of California, Riverside	91	1,075,121	41,944	13,977	1,517,408	2,628,958
U. of Alabama	92	1,473,135	42,582	12,729	1,609,716	1,573,196
Tulane U.	93	1,427,366	28,021	12,518	1,368,797	1,972,873
U. of Guelph	94	1,340,750	102,175	9,104	1,363,000	2,244,000
Colorado State U.	95	1,315,520	37,358	16,029	1,166,275	2,202,154
U. of Saskatchewan	96	1,083,069	44,921	10,184	1,292,216	2,171,192
U. of Notre Dame	97	1,499,252	35,583	10,852	1,307,972	1,790,098
Case Western Reserve U.	98	1,410,669	18,231	13,404	1,140,941	2,132,216
Kent State U.	98	1,437,457	40,542	8,706	970,715	2,163,198
Rice U.	100	1,109,797	37,983	11,675	1,390,502	1,472,297
Oklahoma State U.	101	1,307,732	29,903	14,196	1,272,485	1,455,172

† Libraries are not supposed to report figures for their branch campuses.

‡ Based on an index developed by the Association of Research Libraries for quantitative comparisons. The index takes into account volumes held; gross number of volumes added; microforms held; current serials received; expenditures for library materials, binding, salaries and wages, other operating costs; and number of professional and nonprofessional staff members.

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